

## **Appendix**

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## **Appendix 1**

### **Design Features for Action Alternatives**

Design features include timber sale design, contract stipulations, and prescribed activities to be accomplished by the BLM or timber sale purchaser. The objective of these design features is to maintain or enhance the quality, quantity, and productivity of the resources in the project area.

- Require one-end suspension in all skyline units and areas yarded with ground-based equipment.
- Utilize existing trails to the extent possible when ground-based harvesting systems are used. Sub-soil these existing trails after the completion of harvest activities and provide water bars as necessary. Additional skid trails would be designated prior to use and then blocked and waterbarred after completion of harvest.
- All trees designated for cutting in the commercial thinning and density management thinning units would be cut into lengths so as not to damage the residual stand.
- To minimize damage to residual trees in the commercial thinning and density management thinning units, do not allow falling or yarding between March 1 and June 30.
- All helicopter yarded CT and DMT logs would be lifted vertically, free from the ground and clear of the tree tops, before moving toward the landing to protect the crowns of the residual trees.
- In the commercial thinning and density management thinning units, trees would be limbed and topped prior to yarding
- In regeneration harvest units, directionally fall trees away from all Riparian Reserves.
- In riparian treatment areas, maintain the current (existing) canopy closure within at least a 50 ft. no-cut buffer.
- Harvest and reserve tree marking guidelines are outlined in Section I of the Analysis File.
- Leave all existing snags except where doing so would create a safety hazard.
- Wildlife tree selection should represent the same ratio of conifer tree species present in the units.
- Approximately 70% of the wildlife trees should be in clumps 0.5-2.5 acres or greater in size. The remaining 30% should be scattered throughout the unit or in smaller clumps. Wildlife tree clumps should be centered around existing snags and down logs when possible. The intent is to have wildlife trees scattered throughout the unit in various size clumps and individually.

- In identified regeneration harvest units, top 1 wildlife tree/acre to create immediate snag habitat (Table 1 in Section I of the Analysis File). Approximately 70% of topped trees should be in wildlife tree clumps.
- Avoid marking wildlife trees within 100 feet uphill and 50 feet downhill of open roads to reduce theft.
- Snag creation in commercial thinning units: 3 units will be selected for tree topping and 3 units for girdling. Treat one tree per five acres when topping or girdling.
- Wildlife trees would not be removed if they are knocked down during logging activities.
- A portion of Unit 24 is within 0.25 mile of a known owl site center, therefore, harvest activities will not occur between March 1 and June 15 in that portion of the unit unless survey information indicate the owls are not nesting or that juvenile owls have dispersed from the area (1997 Coos Bay District Biological Assessment).
- All or portions of Units 16, 16N, 20, 22 and 24 are within 0.25 miles of known marbled murrelet occupied sites; therefore, harvest activities will not occur between April 1 and August 5 in those portions. From August 6 thru September 15, daily timing restrictions will apply (1997 Coos Bay District Biological Assessment).
- CT and DMT silvicultural prescriptions will meet the habitat requirements for Del Norte Salamanders by maintaining 60% crown closure over occupied sites. Occupied sites less than 0.5 acres would not be thinned.
- DMT silvicultural prescriptions for Riparian Reserves would be similar to the adjacent uplands.
- Leave 120 linear feet of down logs per acre in density management thinning in Connectivity units and density management areas in Riparian Reserves to provide short-term down log material.
- The prescription for site preparation will be determined after harvest. Alternative types of site preparation could include swamper burn, pile and burn, or broadcast burn. Broadcast burning should be considered only during moist seasons, such as early summer/late fall (after early fall rains).
- For units where slash is piled and burned, leave approximately 1 brush pile/5 acres unburned to serve as habitat for mammals, birds, and herptiles.
- Gross yard hardwoods (5" in diameter and 8' in length) in Unit 16N and other units where falling and leaving hardwoods could limit tree planting.
- Roads: Specific treatments for road closures are identified in Appendix 3.
- All roads designated for winter use must be surfaced with an approved lift of rock. Construction activities would occur during summer or fall (prior to winter storm activity). Roads would be closed according to the Transportation Management Objectives (TMO) plan. Roads designated for summer use only in regeneration harvest units would be

sub-soil tilled, mulched, grass seeded (in accordance with District Native Plant Restoration Policy), water barred (where appropriate) and blocked. Gravel roads designated to be decommissioned after completion of harvest would be blocked, have stream crossing culverts removed, and have waterbars or dips installed as needed to restore hydrologic functions.

- For roads to be fully decommissioned, remove all fills and culverts, backslope fill materials, decompact road surfaces, waterbar, mulch and seed (see District native seed policy) and close all road surfaces, as necessary to restore pre-road hydrologic functions and to minimize the risk of road-related sediment delivery to streams.
- Alternative III: new road construction in Riparian Reserves would have a maximum disturbance width of 25 feet. These roads would be fully decommissioned and the trees cut to construct the road would be left on site and some placed across the road during decommissioning. Those roads associated with regeneration harvest would be replanted.
- All dirt-surfaced new construction and renovation would be blocked, waterbarred, mulched and seeded before overwintering. No more than one winter would elapse between new construction and final decommissioning.
- All in-stream work, namely culvert placement during road renovation and culvert/fill removal during decommissioning, shall be accomplished during the summer low-flow period (July 1 - September 15) to minimize short-term impacts to aquatic species and their habitat.
- Stream crossing culverts placed during renovation of permanent and semi-permanent roads would be designed to provide physically unobstructed routes of migration for all aquatic species, in accordance with ACS Objective #2.
- Do not harvest, cut, or otherwise remove POC from the no-treatment portion of the Riparian Reserves. The DMT portion of the Riparian Reserves would harvest and remove POC less than 50' apart to reduce spread of *Phytophthora lateralis* (PL) to Port Orford cedar (POC).
- Additional site-specific measures for controlling the spread of PL include the following: 1) wash all road construction and logging equipment prior to move in, 2) require rocking of roads prior to fall rains, 3) restrict timber haul to the dry season for following units: 3, 4, 5, 6, 7, 8, 9, 12, 15, & 19; 4) sanitize roadsides of POC and Pacific Yew on all haul road on BLM administered lands prior to timber haul (this includes newly constructed dirt spurs and all harvest landings), 5) POC wildlife trees should be at least 200' below roads and spaced 150' apart.
- Fifty logs, a minimum of 34' long and 14" in diameter, would be decked for in-stream placement to restore degraded aquatic habitat.
- Best Management Practices (BMP's) would be followed as listed in Section H pages 69 - 74, Volume 2, Coos Bay District Final Proposed Resource Management Plan, 1994.

## **Monitoring**

Monitoring guidelines are established in the 1995 FRMP/ROD, pp. L-3, L-4, L8, & L9, and the 1994 Standards and Guidelines, pp. E-1 to E-10.

Monitor the effectiveness of roadside sanitation of POC and Pacific Yew, road closures, and equipment washing in limiting the spread of PL for 6 years following the completion of Timber Sale contracts.

Snag creation in the commercial thinning units will be monitored pre- and post-thinning to track wildlife use (see Coos bay District snag and wildlife tree monitoring plan, 1997).

All roads closed as a result of the action alternatives would be monitored to determine whether mitigation techniques were implemented, and were effective one year after implementation.

A representative sample of streams that were classified as either perennial or intermittent based on biological indicators or physical criteria (as described in the Lower South Fork Coquille Riparian Reserve Evaluation) will be re-evaluated in the September low-flow period to test the validity and accuracy of these techniques.

## Appendix 2

### Harvest Unit Details

**LSF Coquille Analysis Area EA  
Alternative II - Proposed Action**

Unit No.	Photo #	Legal	Total Acres	Volume/Acre MBF	Total Volume MBF	Treatment	Harvest System	Timber Type
3	21B-25	30-13-25	31	50	1,550	Regen	Skyline	D5-1790/D4=1886
4	21B-22	31-13-1	12	4	48	Com. Thin	Skyline	D2GF2=1963
5	21B-22	31-13-1	38	4	152	Com. Thin	Skyline	D3=1963
6	22B-22	31-12-7	2	35	70	Regen	Skyline	D3=1936
7	22B-22	31-12-7	34	20	680	DM Thin. *	Helicopter	D3GF3=1932
8	22B-22	31-12-7	28	16	448	DM Thin.	Helicopter	GF3D3=1935
9	22B-22	31-12-7	41	9	369	DM Thin.	Skyline	D3=1936
12	22B-22	31-12-7	14	15	210	DM Thin.	Skyline	D3=1930
14	23B-29	31-12-8	5	45	225	Regen	Helicopter	D3=1937
15	23B-29	31-12-8	24	35	840	Regen	Skyline	D3=1936
16	23B-26	31-12-17	19	11	209	Com. Thin	Skyline	D3=1947
16N	23B-26	31-12-8/17	39	30	1,170	Regn/Hd Con.	Skyline	D3GF3=1937
19	23B-27	31-12-8/9	8	8	64	Com. Thin	Ground-based	D2=1963
20	23B-26	31-12-8/17	18	10	180	Com. Thin	Heli/Skyline	D2=1963
22	23B-24	31-12-17/20	77	8	616	Com. Thin	Heli/Skyline	D3=1963
24	23B-29	31-12-5/8	40	33	1,320	Regen	Helicopter	D3GF3=1936

Totals:

430

8,151

Connectivity

\* DM Thin. = Density Management Thinning in Connectivity

\*\* NC = New construction

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September 23, 1996

**LSF Coquille Analysis Area EA  
Alternative II - Proposed Action**

Unit No.	Legal	Road Renov. Gravel/Dirt (Stations)	Road Improvement (Stations)	New Road Construction (Stations)	Comments
3	30-13-25	39	0	20	NC ** - dirt; 1 sta. NC in Riparian Reserve
4	31-13-1	15	0	5	NC - dirt
5	31-13-1	0	0	20	NC - dirt; most of the NC uses old existing cat roads.
6	31-12-7	0	0	0	(Part of EA Unit 15)
7	31-12-7	0	0	0	Landing with NC for EA Unit 9
8	31-12-7	0	0	0	Landing with NC for EA Unit 9
9	31-12-7	118	0	17	NC - dirt; Reno. covers multiple EA units (68 sta. - dirt; 28 sta. on private; 50 sta. rock)
12	31-12-7	10	0	0	Reno. - dirt
14	31-12-8	0	0	0	Landings with EA Unit 24
15	31-12-8	0	0	15	NC - dirt; 5 stations on private
16	31-12-17	55	0	0	Reno. - rock
16N	31-12-8/17	0	21	8	NC - rock; Improv. is to rock old existing roads
19	31-12-8/9	0	0	0	Designated skid roads.
20	31-12-8/17	0	0	5	NC - dirt (previously fully decom road); Heli landings at quarry area.
22	31-12-17/20	27	8	6	NC - rock; Reno. 27 sta. - rock; 8 sta. improvement - rock; Heli landings on private.
24	31-12-5/8	12	0	0	Reno. - rock; renovation and landings on private
Totals:		276	29	96	

**Connectivity**

\* DM Thin. = Density Management Thinning in Connectivity

\*\* NC = New construction

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September 23, 1996

**LSF Coquille Analysis Area EA  
Alternative III - Alternative Action**

Unit No.	Photo #	Legal	Total Acres	Volume/Acre MBF	Total Volume MBF	Treatment	Harvest System	Timber Type
3	21B-25	30-13-25	31	50	1,550	Regen	Skyline	D5-1790/D4=1886
4	21B-22	31-13-1	12	4	48	Com. Thin	Skyline	D2GF2=1963
5	21B-22	31-13-1	38	4	152	Com. Thin	Skyline	D3=1963
6	22B-22	31-12-7	2	35	70	Regen	Skyline	D3=1936
7	22B-22	31-12-7	31	20	620	DM Thin. *	Skyline	D3GF3=1932
8	22B-22	31-12-7	28	16	448	DM Thin.	Skyline	GF3D3=1935
9	22B-22	31-12-7	41	9	369	DM Thin.	Skyline	D3=1936
12	22B-22	31-12-7	14	15	210	DM Thin.	Skyline	D3=1930
14	23B-29	31-12-8	5	45	225	Regen	Skyline	D3=1937
15	23B-29	31-12-8	24	35	840	Regen	Skyline	D3=1936
16	23B-26	31-12-17	19	11	209	Com. Thin	Skyline	D3=1947
16N	23B-26	31-12-8/17	39	30	1,170	Regn/Hd Con.	Skyline	D3GF3=1937
19	23B-27	31-12-8/9	8	8	64	Com. Thin	Ground-based	D2=1963
20	23B-26	31-12-8/17	14	10	140	Com. Thin	Skyline	D2=1963
22	23B-24	31-12-17/20	66	8	528	Com. Thin	Skyline	D3=1963
24	23B-29	31-12-5/8	36	33	1,188	Regen	Skyline	D3GF3=1936

Totals:

408

7,831

Connectivity

\* DM Thin. = Density Management Thinning in Connectivity

\*\* NC = New construction

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September 23, 1996

**LSF Coquille Analysis Area EA  
Alternative III - Alternative Action**

Unit No.	Legal	Road Renov. Gravel/Dirt (Stations)	Road Improvement (Stations)	New Road Construction (Stations)	Comments
3	30-13-25	39	0	20	NC ** - dirt; 1 sta. NC in Riparian Reserve
4	31-13-1	15	0	5	NC - dirt
5	31-13-1	0	0	20	NC - dirt; most of the NC uses old existing cat roads.
6	31-12-7	0	0	0	(Part of EA Unit 15)
7	31-12-7	10	0	21	NC - dirt; 2 sta. NC in Riparian Reserve
8	31-12-7	21	0	21	NC - dirt; 1 sta. NC in Riparian Reserve
9	31-12-7	118	0	17	NC - dirt; Reno. covers multiple EA units (68 sta. - dirt; 28 sta. on private; 50 sta. rock)
12	31-12-7	10	0	0	Reno. - dirt
14	31-12-8	0	0	12	NC - dirt; 5 sta. NC in Riparian Reserve
15	31-12-8	0	0	15	NC - dirt; 5 stations on private
16	31-12-17	55	0	0	Reno. - rock
16N	31-12-8/17	0	21	8	NC - rock; Improv. is to rock old existing roads
19	31-12-8/9	0	0	0	Designated skid roads.
20	31-12-8/17	0	0	9	4 sta. NC - rock; 5 sta. NC - dirt (previously fully decom road)
22	31-12-17/20	27	42	25	NC, Improvement, & Renovation - rock
24	31-12-5/8	8	0	38	NC - dirt
Totals:		303	63	211	

**Connectivity**

\* DM Thin. = Density Management Thinning in Connectivity

\*\* NC = New construction

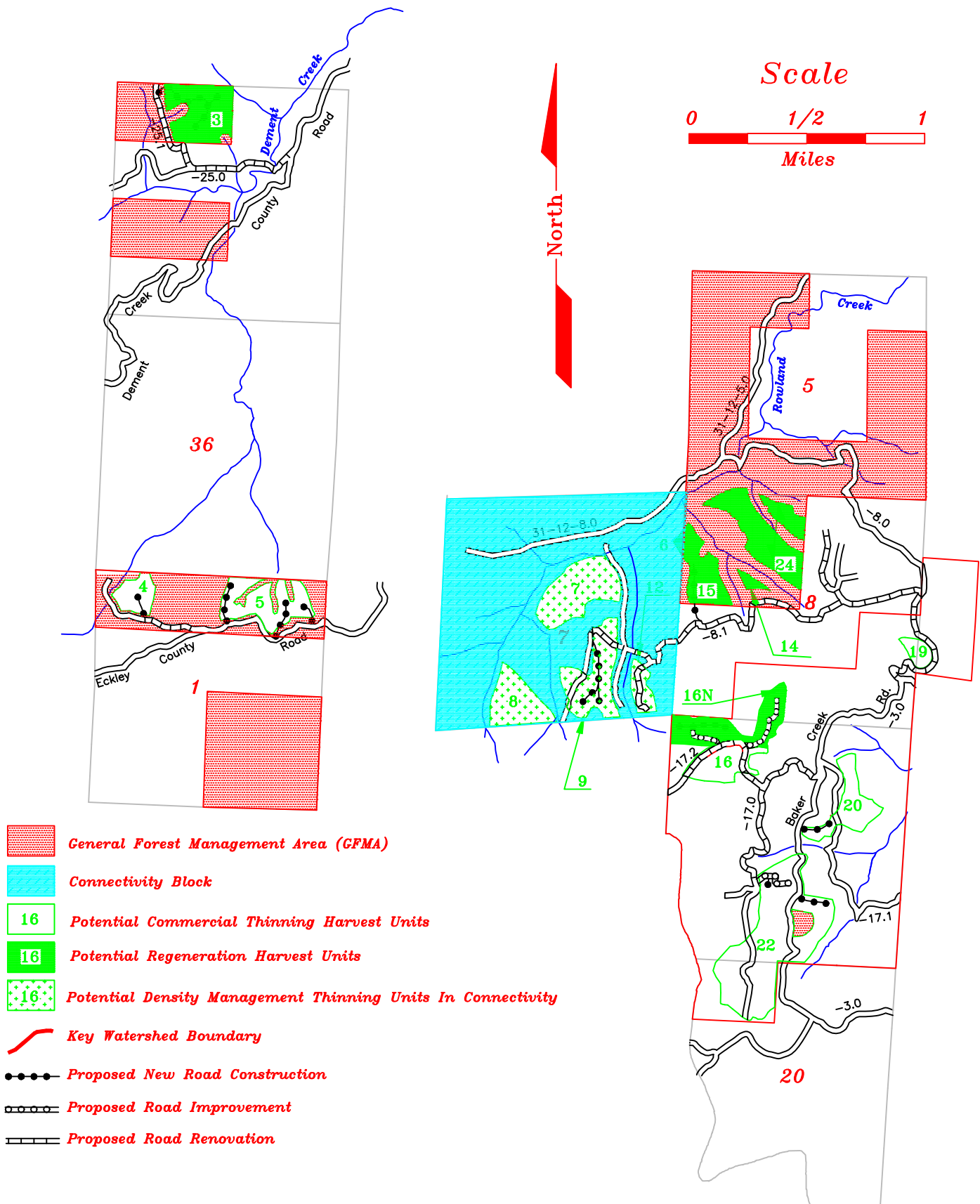
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September 23, 1996

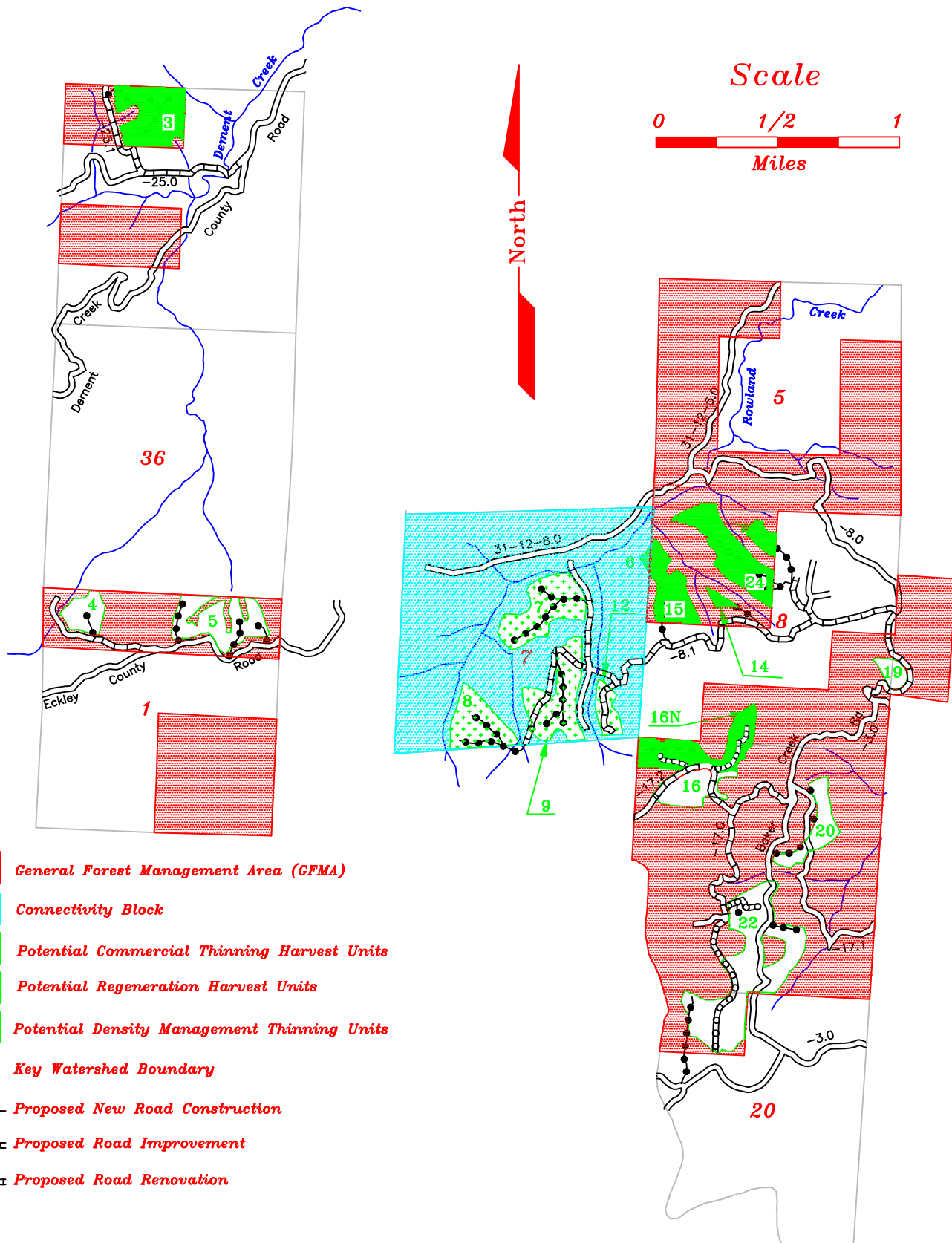
## Appendix 3

### Road Construction, Improvement, and Renovation Maps

## Alternative II – Proposed Action – Roads



*LOWER SOUTH FORK COQUILLE ANALYSIS AREA*  
*Alternative III – Alternative Action – Roads*



## Appendix 4

### Road Closure Recommendations

**LSF Coquille Analysis Area EA  
Road Closure Recommendations**

The following proposed actions will be accomplished under timber sales covered by this EA and are common to both Action Alternatives. The recommendation to close these roads incorporated information from the Transportation Management Objectives developed in the LSF Coquille Watershed Analysis.

Road No.	Miles Decom.	Miles Full Decom.	Miles Temp. Closed	Remarks	Management Objectives **
Key Watershed:					
31-12-8.1 Seg B&D	0	0	0	Private road; suggest gating at Seg. break A, replace culverts, and decommission.*	
31-12-8.1 Seg C	0	0	0.3	Closed by action on -8.1 Seg. B&D, also decommission.	1, 2, 3, & 4
31-12-8.1 Seg E	0.9	0	0	Block at property line. Restore stream crossings with the decommissioning.	1, 2, 3, & 4
31-12-7.0	0.6	0	0	Block at junctions with -8.1 road, Restore stream crossing with the decommissioning.	1, 2, 3, & 4
Spur in EA Unit 12	0	0.2	0	Block at junction with -8.1 road.	3 & 4
31-12-17.3	0.4	0	0	Block at junction with -17.0	3 & 4
31-12-17.0	1.2	0	0	Block at junction with -17.2	2, 3, & 4
Spur in 31-12-17	0.2	0	0	Blocked by action with -17.0 road.	3 & 4
31-12-17.1	0	0	1.3	Gate near south end of quarry area.	3
31-12-16.0	0.6	0	0	Block at junction with the -17.1 road.	1, 3, & 4
Spurs in EA Unit 16 N	0.4	0	0	Block at junctions with -17.2 road.	3 & 4
Spur in EA Unit 22	0.2	0	0	Block at junction with -17.0 road.	3 & 4
Subtotal:	4.5	0.2	1.6		
Non Key Watershed					
Spur to EA Unit 4	0.2	0.3	0	Block at junction with County Road. Restore stream crossing with the decom portion.	1, 2, 3, & 4
30-12-31.0	0	0.5	0	Block at junction with County Road.	3 & 4
30-12-29.2	0	0.3	0	Block at junction with County Road; rock can be removed.	2, 3, & 4
30-12-29.1	0	0.2	0	Block at junction with County Road; rock can be removed.	2, 3, & 4
Subtotal:	0.2	1.5	0		
Totals:	4.7	1.7	1.6		

Decom. = Decommission (Block and left in condition to self maintain. Remove stream crossing culverts ensure hydrological functions.)

Full Decom = Full Decommission (Decommission and subsoil)

Temp. Closed = Temporarily Closed (Roads blocked with a gate)

\* Private road: ask permission to gate, replace stream crossing culverts to meet objectives and leave in place, waterbar, etc.

\*\* 1 = Wildlife, 2 = Aquatic Conservation Strategy, 3 = Phytophthora lateralis control,  
4 = Road Density

Current Open Road Density: 2.29 mi/sq mi.  
New Open Road Density: 2.06 mi/sq mi.

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